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Ref.: 15045

April 4, 2016

Mr. Nicolas Bosonetto, P.E.
City of Lowell Dept. of Planning & Development
JFK Civic Center
50 Arcand Drive
Lowell, MA 01852

Reg.: Apartment Development
42 Wellman Street

Dear Nicolas:

Ron Müller & Associates (RMA) has reviewed your March 11, 2016 memorandum summarizing your comments from your review of the site plan and traffic study[1] submitted for the proposed apartment development to be located at 42 Wellman Street. This letter and attached materials are intended to respond to your comments, which focused on site access via Lowes Way, the intersection of Chelmsford Street and Wellman Street, and the trip generation estimates made in the traffic study.

Lowes Way

Your first and primary comment deals with access to the site via Lowes Way, a portion of which currently travels through a parking lot for the office building located at 41 Wellman Street. As discussed at the March 31, 2016 meeting between the applicant and city staff, the proponent will make significant improvements to Lowes Way including the following:

- Remove the 21 parking spaces on the east side of Lowes Way opposite the office building and replace with 6 parallel spaces.

- Close the curb cut into the parking lot on the east side and at the end of Lowes Way to eliminate turning conflicts.

[1] *Traffic Impact and Access Study, Wellman Street Apartments, Lowell, MA;* prepared for R.J. O'Connell & Associates, Inc.; prepared by Ron Müller & Associates; February 22, 2016.

- Construct a raised crosswalk across Lowes Way to act as a traffic calming measure.

- Install a painted crosswalk to connect the parking lot on the east side of Lowes Way with the office building at 41 Wellman Street.

- Construct sidewalks and crosswalks to connect the proposed apartment building with the office buildings located at 41 Wellman Street and 59 Lowes Way as well as with the Lowes store.

- Reconstruct portions of the parking lot to 41 Wellman Street to make up some of the lost parking spaces.

- Restripe Lowes Way from Wellman Street to Industrial Avenue to provide a double yellow centerline, new lane lines on the Industrial Avenue approach, and stop lines and stop signs on all driveway approaches to Lowes Way as well as at the end of Lowes Way.

These improvements are shown on the enclosed plan prepared by R.J. O'Connell & Associates, Inc. In addition to these improvements, the proponent will work with the City of Lowell Engineering Department to either modify or create the easements necessary to allow access rights over Lowes Way for all abutting uses as well as the proposed apartment building. The proponent will also create a maintenance agreement for Lowes Way that will indentify the responsible parties and stipulate the maintenance of Lowes Way in perpetuity.

Chelmsford Street at Wellman Street

Your second comment was regarding the Chelmsford Street and Wellman Street intersection and that this intersection is currently listed by MassDOT as a crash cluster with 18 accidents in a two-year period. We have conducted a detailed review of these crashes and found that the majority of accidents occurred at nearby driveways and not at this intersection. In fact, we contacted the Lowell Police Department and found that there were no reported accidents at the Chelmsford Street and Wellman Street intersection in the most recent four-year period (2012 - 2015).

Since Lowes Way will be upgraded as discussed above and allow the majority of apartment traffic to travel on Lowes Way to access Industrial Avenue and the Lowell Connector, the project will have little impact on the Chelmsford Street and Wellman Street intersection, as described in the traffic study. During the weekday AM peak hour, the project will add 29 vehicles to the Wellman Street approach and during the weekday PM peak hour, the project will add only 16 vehicles. Turns exiting Wellman Street onto Chelmsford Street will operate well under capacity (volume-to-capacity ratio between 0.23 and 0.63) under the projected 2023 Build volume conditions. Based on the traffic signal warrants described in the Manual on Uniform Traffic

Control Devices (MUTCD), projected 2023 Build peak hour volumes will not exceed the minimum volume thresholds that could permit installation of a traffic control signal. See attached warrant analysis.

As discussed at our meeting on March 29, 2016, the pavement markings at the Chelmsford Street and Wellman Street intersection are currently faded and the southbound left-turn lane hardly visible. You also mentioned the need for a crosswalk across Chelmsford Street to provide access to the bus stops located on both sides of Chelmsford Street at this intersection. The proponent is willing to restripe the intersection as shown on the attached sketch and add crosswalks across both Chelmsford Street and Wellman Street to allow safe pedestrian crossings. The proponent will also install a new wheelchair ramp on the west side of Chelmsford Street to provide handicap accessibility. Wheelchair ramps at the corners of the Wellman Street intersection currently exist. In addition, the proponent will install a sidewalk along Wellman Street from the proposed apartment building to Chelmsford Street and restripe the entire length of Wellman Street to provide a double yellow centerline and stop line on the approach to Chelmsford Street. A stop sign already exists on this approach.

Trip Generation Estimates

Finally, you suggested that the trip-generation estimates in the traffic study may be low as the development is meant to attract professionals who would commute to work on a daily basis. You recommended that the trip generation should be calculated using the higher range of rates provided in the Institute of Transportation Engineers (ITE) *Trip Generation Manual* for apartment buildings. The ITE manual provides trip-generation rates for a variety of different apartment buildings, including low-rise apartments (1-2 floors), mid-rise apartments (3-10 floors), and high-rise apartments (greater than 10 floors). The manual also provides a general apartment category (Land Use Code 220) where the apartment type is not specified.

Mid-rise and high-rise apartments generate the least amount of traffic as these buildings are typically found in urban environments where there is greater availability of public transportation as well as shopping and employment opportunities within walking distance of the building that will tend to reduce the volume of vehicular traffic. The ITE general apartment category (LUC 220) produces the highest estimate of traffic generation. The proposed 6-story apartment building falls under the mid-rise category in the ITE manual (LUC 223) and the associated trip rates could have been used in the traffic study. However, to present a conservative (high) estimate of traffic generation, the general apartment category (LUC 220) was used. The table below shows the average trip rates from the ITE manual for mid-rise apartment categories and shows the range of rates observed by the ITE. The table also shows the trip rates used in the traffic study.

	Mid-Rise Apartments [a]		
Peak Hour	Average Rates	Range of Rates	**Trip Rates Used [b]**
AM Peak Hour	0.30	0.06 - 0.46	**0.51**
PM Peak Hour	0.39	0.15 - 0.54	**0.62**

[a] ITE Land Use Code 223, Mid-Rise Apartment.
[b] ITE Land Use Code 220, Apartment.

As shown by this comparison, the trip rates used in the study are significantly higher than mid-rise apartment average rates and even higher than the highest observed rates for this category. Furthermore, the proposed apartment building will be served by public transportation along Chelmsford Street and Industrial Avenue (Bus Routes 4 and 16) and shopping, dining, and employment opportunities are in close proximity and within walking distance. No credit or trip reductions were made in the traffic study to account for this urban setting, resulting in significantly higher trip estimates than will actually be realized.

I hope the above adequately address your concerns and comments. Please feel free to contact me should you have any questions.

Sincerely,

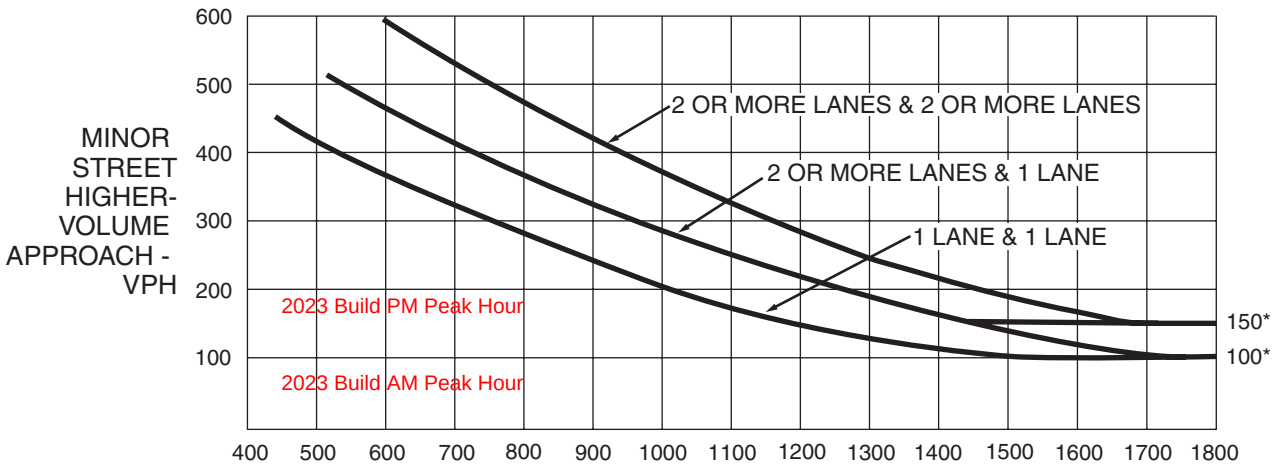
Ron Müller & Associates

Ronald Müller, P.E.
Principal

Enclosures

cc: Robert Hawking
George Eliades
George Theodorou
Roy Smith

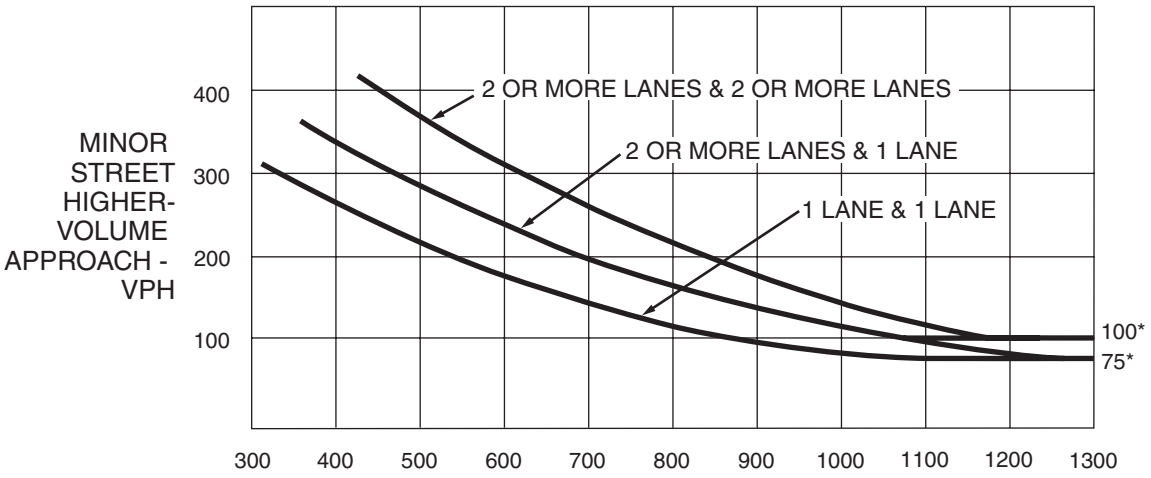
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

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Chelmsford Street at Wellman Street Improvements